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Amendment and/or Response
Reply to Office action of 11 September 2009
Confirmation no. 8370

REMARKS / DISCUSSION OF ISSUES

The present amendment is submitted in response to the Final Office Action mailed September 11, 2009. Claims 1-2 remain in this application. In view of the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Claim Rejections under 35 USC 112, second paragraph

In the Office Action, claim 1 was rejected under 35 U.S.C. §112, second paragraph. The rejection of claim 1 is understood to be based on the premise that it is not clear what is meant by the term "reciprocally". In response, Applicants have clarified the claim language in a manner which is believed to overcome the rejection.

Rejections under 35 U.S.C. §103(a)

The Office rejects Claims 1 and 2 under 35 U.S.C. §103(a) over U.S. Patent Application No. 2001/0019526 – Takeda in view of U.S. Patent No. 6,434,087 (" Schell") and further in view of US Patent Application No. 2003/0174617 ("Kim"). Applicants respectfully traverse the rejections.

Claims 1 and 2 are allowable

Independent claims 1 and 2 have has been amended herein to better define Applicant's invention over the combination of Takeda, Schell and Kim. It is therefore respectfully submitted that claims 1 and 2 now recite limitations and/or features which are not disclosed by Takeda, Schell and Kim, individually and in combination. Accordingly, the cited portions of Takeda, Schell and Kim, do not anticipate claims 1 and 2, because the cited portions of Takeda, Schell and Kim fail to disclose every element of claims 1 and 2. For example, the cited portions of Taniguchi fail to disclose or suggest, "*wherein gain of the feed-forward loop is chosen such that an angular velocity of the tray motor is proportional to the input voltage applied to the loop for the tray steering*", as recited in claims 1 and 2. As admitted by the Office at page 4 of the instant Office Action, both Takeda and Schell fail to teach that gain of the feed-forward loop is chosen such that an angular velocity of the tray motor is proportional to the input voltage. The Office cites Kim for remedying this deficiency in Takeda and

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Schell. Specifically, the Office cites Kim for allegedly teaching that the angular velocity of the disk is proportional to the input voltage. Applicants respectfully disagree and submit that Kim does not disclose or suggest "*wherein gain of the feed-forward loop is chosen such that an angular velocity of the tray motor is proportional to the input voltage applied for the tray steering*", as recited in claim 1. Upon a close reading of par. 47 of Kim, it is apparent that Kim does not disclose or suggest that the "break voltage" is proportional to the angular velocity, as suggested by the Office. Instead, Kim teaches that it is **the application time t of the break voltage** and not the break voltage itself that is proportional to the rotation speed of the disk, i.e., the angular velocity. Applicants respectfully submit that teaching that an application time is proportional to the rotational velocity of a disk is different from teaching that a voltage (i.e., break voltage) is proportional to the rotational velocity.

    Kim teaches at par. 47

    [0047] By the way, a break voltage **applying time t** at an arbitrary position on a disk **is proportional to the rotation speed of the disk**, namely, the angular velocity Ω of the disk. That means t. Because of=/r where v is a linear velocity (or a reproduction speed), then the following relationship is computed: t/r. The fact that the reproduction speed of the disk is constant leads to the relation of t1/r. As a result, the following proportional relation can be derived between the break voltage applying time t at an arbitrary position on a disk and the pre-known break voltage applying time t1 at the start position of the program area on the disk: t:t1=1/4:1/r1, this gives 1 t = r1 x. t1 r (A)

    Further, claims 1 and 2 have been amended to more clearly and precisely recite that the input voltage recited in claims 1 and 2 is an input voltage **applied to the loop for tray steering**. It is respectfully submitted that an input voltage of the invention applied to the loop for tray steering is different from the **break voltage** disclosed in Kim, which is applied to the motor for some finite duration to **stop the rotating recording medium.** As described in Applicant's specification at pages 4 and 5, a very simple model is used for the tray motor. The tray motor model includes, *inter alia,* a voltage source, $V_{(EMK)}$ that represents the back electromotive force generated by the coil of the motor. The voltage $V_{(EMK)}$ of the voltage

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source 33 is a quasi-static signal that is proportional to the angular velocity of the motor.   In

Applicant's expression (7):

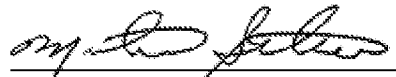$$G \cdot V(in) = V_{(EMK)} \tag{7}$$

The feed-forward loop of the invention acts as a negative resistance that compensates for

the motor resistance R_M. As stated above, the back electromotive force $V_{(EMK)}$ of the motor is

proportional to the angular velocity of the motor. So, from the expression (7), it can be

concluded that by choosing the correct feed-forward gain, the tray motor can be forced to have

an angular velocity that is proportional to the input voltage V(C). This is neither taught nor

suggested in Kim. Accordingly, for the reasons advanced above, it is respectfully requested

that the rejection under 35 U.S.C. §103(a) with respect to claims 1 and 2 be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all

claims presently pending in the application, namely, Claims 1 and 2 are believed to be in

condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels

that an interview would be helpful, the Examiner is requested to call Mike Belk, Esq.,

Intellectual Property Counsel, Philips Electronics North America, at 914-945-6000.

Respectfully submitted,

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